

Serial No. 09/543,754
Page 2 of 13

IN THE CLAIMS

1. **(currently amended)** A frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, comprising:

an application discriminating unit for referring to the header of the received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application; and

a frame transmitting unit for sending in duplicate the received frame to a plurality of paths in parallel in the direction of a destination if the application is a real-time application, and for sending the received frame to an only path in the direction of a destination if the application is not a real-time application.

2. **(original)** The frame forwarding installation according to claim 1, wherein said application discriminating unit determines that the application of the host layer is a real-time application when a port number of the received frame matches a port number of the real-time application.

3. **(previously presented)** The frame forwarding installation according to claim 1, further comprising a plurality of interface units;

wherein said frame transmitting unit has an address table which specifies the plurality of interface units in association with a destination address and sends the received frame to the

84222725_1

Serial No. 09/543,754
Page 3 of 13

plurality of paths via the plurality of interface units, which conform to the destination address, if the application is a real-time application.

4. (original) The frame forwarding installation according to claim 1, further comprising a tag attaching unit for attaching a tag, which includes a frame identifier, to a frame;

wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not.

5. (currently amended) A frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, comprising:

an application-type discriminating unit for referring to the header of the received frame and discriminating the type of application of a host layer in the transmitting terminal; and

a frame transmitting unit for transmitting in duplicate the received frame to a plurality of paths in parallel in the direction of a destination if the type of an application is a predetermined type, and for sending the received frame to an only path in the direction of a destination if the type of an application is not the predetermined type.

6. (original) The frame forwarding installation according to claim 5, wherein said application-type discriminating unit discriminates the type of application of the host layer from a TCP port number of the received frame.

84222725_1

Serial No. 09/543,754
Page 4 of 13

7. (previously presented) The frame forwarding installation according to claim 5, further comprising a plurality of interface units;

wherein said frame transmitting unit has an address table which specifies the plurality of interface units in association with the destination address and sends the received frame to the plurality of paths via the plurality of interface units, which conform to the destination address, if the type application is the predetermined type.

8. (original) The frame forwarding installation according to claim 5, further comprising a tag attaching unit for attaching a tag, which includes a frame identifier, to a frame;

wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not.

9. (currently amended) A frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, comprising:

an address-match discriminating unit for determining whether the destination address or transmission-source address contained in the header of the received frame matches an address that has already been registered; and

a frame transmitting unit for sending in duplicate the received frame to a plurality of paths in parallel in the direction of a destination if the addresses match, and for sending the received frame to an only path in the direction of a destination if the addresses do not match.

84222725_1

Serial No. 09/543,754
Page 5 of 13

10. (original) The frame forwarding installation according to claim 9, further comprising a plurality of interface units;

wherein said frame transmitting unit has an address table which specifies a plurality of interface units in association with a destination address and sends the received frame to a plurality of paths via a plurality of interface units, which conform to a destination address, if the addresses match.

11. (previously presented) The frame forwarding installation according to claim 9, further comprising a tag attaching unit for attaching a tag, which includes a frame identifier, to the frame;

wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not.

12. (currently amended) A frame forwarding installation for receiving frames, which are directed toward a subordinate destination terminal, from a plurality of paths and transmitting one of the frames to the destination terminal, comprising:

a receiving unit for receiving a frame in duplicate from a plurality of paths;

a storage unit for storing an identifier of ~~the~~ a frame that has been transmitted to the destination terminal; and

a redundant-frame filter for determining whether ~~the~~ a frame identifier of a frame newly received from ~~a one of said plurality of paths~~ a one of said plurality of paths has already been stored in said storage unit, discarding the received frame if the received frame has ~~a the~~ a frame identifier that has already

84222725_1

Serial No. 09/543,754
Page 6 of 13

been stored in said storage unit, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the received frame is not the frame that has already been received.

13. (original) The frame forwarding installation according to claim 12, wherein the frame identifier is a sequence number contained in the frame.

14. (original) The frame forwarding installation according to claim 12, wherein the frame identifier is a computational result obtained by subjecting a specific portion of the received frame to a fixed computation.

15. (original) The frame forwarding installation according to claim 12, wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame.

16. (currently amended) A network having a frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, and a frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, wherein the frame forwarding installation on the side of the transmitting terminal comprises:

84222725_1

Serial No. 09/543,754

Page 7 of 13

an application discriminating unit for referring to the header of the received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application; and

a frame transmitting unit for sending, in duplicate, the received frame to a plurality of paths in parallel in the direction of a destination if the application is a real-time application; and the frame forwarding installation on the side of the destination terminal includes:

a receiving unit for receiving a frame in duplicate from a plurality of paths;

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and

a redundant-frame filter for determining whether a frame identifier of a frame newly received ~~frame from one of said plurality of paths~~ has already been stored in said storage unit, discarding the received frame if the received frame is a has the frame identifier that has already been ~~received~~ stored in said storage unit, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the frame is not a the frame that has already been received.

17. (currently amended) A network having a frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, and a frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, wherein the frame forwarding installation on the side of the transmitting terminal comprises:

84222725_1

Serial No. 09/543,754

Page 8 of 13

an application-type discriminating unit for referring to the header of the received frame and discriminating the type of application of a host layer in the transmitting terminal; and

a frame transmitting unit for transmitting, in duplicate, the received frame to a plurality of paths in parallel in the direction of a destination if the type of an application is a predetermined type; and

the frame forwarding installation on the side of the destination terminal comprises:

a receiving unit for receiving a frame in duplicate from a plurality of paths;

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and

a redundant-frame filter for determining whether a frame identifier of a frame newly received from a one of said plurality of paths has already been stored in said storage unit, discarding the received frame if the received frame is a has the frame identifier that has already been ~~received~~ stored in said storage unit, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the frame is not a the frame that has already been received.

18. (currently amended) A network having a frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal,

and a frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination

84222725_1

Serial No. 09/543,754
Page 9 of 13

terminal, wherein the frame forwarding installation on the side of the transmitting terminal comprises:

an address-match discriminating unit for determining whether a destination address or transmission-source address contained in the header of the received frame matches an address that has already been registered; and

a frame transmitting unit for sending, in duplicate, the received frame to a plurality of paths in parallel in the direction of a destination if the addresses match; and

the frame forwarding installation on the side of the destination terminal comprises:

a receiving unit for receiving a frame in duplicate from a plurality of paths;

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and

a redundant-frame filter for determining whether a frame identifier of a frame newly received from a one of said plurality of paths has already been stored in said storage unit, discarding the received frame if the received frame is a has the frame identifier that has already been ~~received~~ stored in said storage unit, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the frame is not a the frame that has already been received.

84222725_1